

WHAT IS CLAIMED IS:

1. A motorized bicycle front derailleur assembly comprising:  
a motor unit having an output shaft being configured and arranged to rotate between a first rotational position and a second rotational position;  
a front derailleur operatively coupled to the output shaft, the front derailleur including a fixing body, a chain guide, and a derailleur linkage operatively coupled between the fixing body and the chain guide; and  
a motor linkage operatively coupled between the output shaft and the derailleur linkage to move the chain guide in response to rotation of the output shaft,  
the motor linkage including a jamming protection arrangement that is configured and arranged to move between a force transmitting state and a force override state.
2. The motorized bicycle front derailleur assembly according to claim 1, wherein  
the output shaft includes an eccentric drive pin that is offset from a rotational axis of the output shaft.
3. The motorized bicycle front derailleur assembly according to claim 1, wherein  
the jamming protection arrangement includes a saver link pivotally coupled to the derailleur linkage and a biasing element operatively coupled between the saver link and the derailleur linkage to urge the saver link from the force override state to the force transmitting state such that a substantially rigid connection is normally maintained between the saver link and the derailleur linkage.
4. The motorized bicycle front derailleur assembly according to claim 3, wherein  
the biasing element is a torsion spring having a coiled portion located about a pivot axis formed between the saver link and the derailleur linkage.

5. The motorized bicycle front derailleur assembly according to claim 3, wherein

the motor linkage further includes a drive link pivotally coupled between the saver link and the output shaft.

6. The motorized bicycle front derailleur assembly according to claim 5 wherein

the output shaft includes an eccentric drive pin that is offset from a rotational axis of the output shaft.

7. The motorized bicycle front derailleur assembly according to claim 5, wherein

the front derailleur further includes a mechanical adjustment device configured and arranged to change at least one of first and second shift positions of the chain guide relative to the fixing body.

8. The motorized bicycle front derailleur assembly according to claim 7, wherein

the mechanical adjustment device is configured and arranged to change both of the first and second shift positions of the chain guide relative to the fixing body.

9. The motorized bicycle front derailleur assembly according to claim 8, wherein

the mechanical adjustment device includes a first adjustment screw configured and arranged to change the first shift position of the chain guide relative to the fixing body.

10. The motorized bicycle front derailleur assembly according to claim 9, wherein

the mechanical adjustment device further includes a second adjustment screw configured and arranged to change the second shift position of the chain guide relative to the fixing body.

11. The motorized bicycle front derailleur assembly according to claim 1 wherein

the front derailleur further includes a mechanical adjustment device configured and arranged to change at least one of first and second shift positions of the chain guide relative to the fixing body.

12. The motorized bicycle front derailleur assembly according to claim 11, wherein

the mechanical adjustment device is configured and arranged to change both of the first and second shift positions of the chain guide relative to the fixing body.

13. The motorized bicycle front derailleur assembly according to claim 11, wherein

the mechanical adjustment device includes a first adjustment screw configured and arranged to change the first shift position of the chain guide relative to the fixing body.

14. The motorized bicycle front derailleur assembly according to claim 13, wherein

the mechanical adjustment device further includes a second adjustment screw configured and arranged to change the second shift position of the chain guide relative to the fixing body.

15. The motorized bicycle front derailleur assembly according to claim 11, wherein

the mechanical adjustment device includes an adjustment screw threadedly coupled to one of the fixing body, the chain guide and the derailleur linkage with a free end of the adjustment screw contacting one of the fixing body, the chain guide and the derailleur linkage in which the adjustment screw is not threadedly coupled thereto.

16. The motorized bicycle front derailleur assembly according to claim 11, wherein

the mechanical adjustment device includes an adjustment screw threadedly coupled to one of the motor linkage and the derailleur linkage with a free end of the adjustment screw contacting one of the motor linkage and the derailleur linkage in which first adjustment screw is not threadedly coupled thereto.

17. The motorized bicycle front derailleur assembly according to claim 11, wherein

the output shaft includes an eccentric drive pin that is offset from a rotational axis of the output shaft.

18. The motorized bicycle front derailleur assembly according to claim 1, wherein

the motor unit further includes a motor with a driving shaft and a drive train coupled between of the driving shaft and the output shaft.

19. The motorized bicycle front derailleur assembly according to claim 18, wherein

the output shaft is configured and arranged to an eccentric drive pin that is offset from a rotational axis of the output shaft.